

Name: _____

at1110paper__practice__test (v1)

1. Expand the following expression into standard form.

$$(2x + 5)(4x + 3)$$

$$8x^2 + 6x + 20x + 15$$

$$8x^2 + 26x + 15$$

2. Factor the expression.

$$x^2 - x - 20$$

$$(x + 4)(x - 5)$$

3. Solve the equation with factoring by grouping.

$$18x^2 - 24x - 15x + 20 = 0$$

$$(6x - 5)(3x - 4) = 0$$

$$x = \frac{5}{6} \quad x = \frac{4}{3}$$

4. Factor the expression.

$$25x^2 - 9$$

$$(5x + 3)(5x - 3)$$

5. Expand the following expression into standard form.

$$(9x - 5)(9x + 5)$$

$$\begin{aligned}81x^2 + 45x - 45x - 25 \\81x^2 - 25\end{aligned}$$

6. Solve the equation.

$$(5x - 9)(3x - 8) = 0$$

$$x = \frac{9}{5} \quad x = \frac{8}{3}$$

7. Solve the equation.

$$11x^2 + 61x - 41 = 4x^2 + 2x - 5$$

$$\begin{aligned}7x^2 + 59x - 36 &= 0 \\(7x - 4)(x + 9) &= 0 \\x = \frac{4}{7} \quad x &= -9\end{aligned}$$

8. Expand the following expression into standard form.

$$(9x + 7)^2$$

$$\begin{aligned}81x^2 + 63x + 63x + 49 \\81x^2 + 126x + 49\end{aligned}$$